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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/091,385	03/07/2002	Masao Kamiguchi	392.1739	8740

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EXAMINER	
HEITBRINK, JILL LYNNE	

ART UNIT	PAPER NUMBER
1732	

DATE MAILED: 08/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/091,385	KAMIGUCHI ET AL.
	Examiner	Art Unit
	Jill L. Heitbrink	1732

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 June 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *07 March 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *5/14/04*.
4) ☒ Interview Summary (PTO-413) Paper No(s)/Mail Date. *7/29/04*.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims repeated use alternative language, i.e. or, and/or, which are unclear as to which terms or group of terms are alternatives. For example, claim 1, lines 8 and 9 use alternatives "or" three times, so that the language is unclear as to which limitations should be included in the claim.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2 and 4 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Sheth et al. "An Adaptive Control Methodology for the Injection Molding Process. Part 1: Material Data Generation".

5. Sheth discloses performing injection of resin using the injection molding machine on set analysis condition which would have included a resin temperature condition, page 92, middle of left column, and obtaining a degree of resin-temperature dependency of a resin pressure and shot size, Tables 4, 5, 6 and Figs. 6 and 7.

6. Claims 1-36 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Kamiguchi et al. (European Patent 1,044,781), see page 7, lines 22-page 8, line 57. Kamiguchi et al. discloses performing injection air shots, obtaining data and obtaining interdependency relationships of the resin pressure, temperature, velocity and screw position, time.

7. Claims 1-36 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Nunn (Pat. No. 4,850,217). Nunn discloses performing injection molding using a plurality of different conditions and plotting and analysising the conditions based on screw position and time, Fig. 3 and 4, and the exponential function with resin temperature, viscosity, col. 5, lines 1-25.

Response to Arguments

8. Applicant's arguments filed June 16, 2004 have been fully considered but they are not persuasive.

9. Applicant argues that there is no requirement in the MPEP requiring alternative language to be removed. However, the examiner rejected the claims as being indefinite since the alternative language is repetitive such that the language and limitations of the claim are unclear and indefinite. If the language of the claim is such that a person of ordinary skill in the art could not interpret the metes and bounds of the claim so as to understand how to avoid infringement, a rejection of the claim under 35 U.S.C. 112, second paragraph would be appropriate. See Morton Int 'l, Inc. v. Cardinal Chem. Co., 5 F.3d 1464, 1470, 28 USPQ2d 1190, 1195 (Fed. Cir. 1993). Alternative expressions are permitted if they present no uncertainty or ambiguity with respect to the question of

scope or clarity of the claims. For example, the claim is unclear whether the limitations stating at claim 1, line 8 "based on..." would limit the claim using only the alternative "a degree of resin-temperature dependency of a resin pressure".

10. Applicant argues that Sheth fails to discuss obtaining a degree of resin-temperature dependency of a resin pressure and/or a degree of velocity or flow-rate dependency of a resin pressure based on a relationship between the resin pressure and a screw position or a relationship between the resin pressure and an elapsing time from a start of each injection obtained in the injections of resin, as claimed in claim 1. However, Sheth obtains a degree of resin-temperature dependency of a resin pressure, such as Table 5 showing specific volume at the temperature in the first column and different dependencies of pressures in columns two through six. These values are obtained at different shot sizes, see Sheth page 92, right column, first paragraph, so as to correct for different amounts of material remaining in the nozzle after the shot. Different shot sizes require a different screw position. Therefore, the obtained degree of resin-temperature dependency of a resin pressure is based on a relationship between the resin pressure and a screw position.

11. Applicant's arguments, see page 11, last paragraph, filed June 16, 2004, with respect to claim 5 rejected under 35 U.S.C. 102(b) as being clearly anticipated by Sheth et al. have been fully considered and are persuasive. The rejection under 35 U.S.C. 102(b) as being clearly anticipated by Sheth et al. of claim 5 has been withdrawn. Sheth does not clearly show a relationship with injection velocity or flow rate.

12. Applicant argues that Kamiguchi obtains an injection pressure curve as a molding condition using a resin flow analysis. However, Kamiguchi discloses performing air shots and measuring data "under various resin temperatures and injection velocities for the same shapes of the cylinder and that of the nozzle of the molding machine and the same resin" (page 7, lines 43-45). "The molding condition data 102 includes a resin temperature, an injection velocity and injection uppermost pressure, a die temperature and the like" (Page 6, lines 40-41). The obtained data is used for obtaining the injection pressure P serving as a molding condition (page 8, lines 22-29). As to claim 11, Kamiguchi discloses automatically obtaining an interdependency relation of the resin pressure with respect to the resin temperature and the injection velocity or flow rate of resin (see page 13, lines 6 and 7) based on combinations of the data of the injection pressure, the injection velocity and the resin temperature in the injections (see page 13, lines 8-10). As to claim 17, Kamiguchi discloses an analyzing means for obtaining a degree of resin temperature dependency of the resin pressure and/or a degree of velocity or flow rate dependency of the resin pressure page 14, lines 2-4) based on the resin pressure at set screw position or at set points in time elapsing from a start of injection (page 13, lines 56-58, curved data is based on time as shown in Fig. 5). As to claim 22, Kamiguchi discloses analyzing means for obtaining an interdependency relation between the resin pressure with respect to the resin temperature and an injection velocity or a flow rate of resin (see page 13, lines 6 and 7) based on the detected resin pressure, the injection velocity and the resin temperature at set screw positions or at set points in time elapsing from a start

of each injection (see page 13, lines 8-10 and the curved data based on time). As to claim 28, Kamiguchi discloses analyzing means for analyzing interdependency relation of the resin pressure with respect to the resin temperature and the injection velocity or a flow rate of resin based on data stored in the storing means (page 13, lines 51- page 14, line 4).

13. Applicant argues that Nunn contains no discussion of the claimed obtaining or analyzing any of the relationships or interrelationships between resin pressure, temperature, time, and nozzle position ("nozzle position" does not have support in the claims or specification and is believed by the examiner to be intended to refer to "screw position"). As to claims 1 and 5, Nunn discloses obtaining a degree of resin-temperature dependency of a resin pressure and/or a degree of velocity or flow-rate dependency or interdependency of a resin pressure (Fig. 3 shows the dependency of temperature and pressure) based on a relationship between the resin pressure and a screw position or a relationship between the resin pressure and an elapsing time (Fig. 3 shows the dependency based on time) from a start of each injection obtained in the injections of resin. As to claim 11, Nunn discloses automatically obtaining an interdependency relation of the resin pressure with respect to the resin temperature and the injection velocity or flow rate of resin (col. 7, lines 26-52) based on combinations of the data of the injection pressure, the injection velocity and the resin temperature in the injections (col. 3, lines 48-51). As to claim 17, Nunn discloses an analyzing means for obtaining a degree of resin temperature dependency of the resin pressure and/or a degree of velocity or flow rate dependency of the resin pressure (Fig. 3) based on the

resin pressure at set screw position (col. 3, lines 51-53) or at set points in time elapsing from a start of injection. As to claim 22, Nunn discloses analyzing means (graphing) for obtaining an interdependency relation between the resin pressure with respect to the resin temperature and an injection velocity or a flow rate of resin based on the detected resin pressure, the injection velocity and the resin temperature at set screw positions or at set points in time elapsing from a start of each injection (Figures 3 and 4). As to claim 28, Nunn discloses analyzing means (graphing) for analyzing interdependency relation (col. 13, lines 32-34) of the resin pressure with respect to the resin temperature and the injection velocity or a flow rate of resin based on data stored in the storing means.

14. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jill L. Heitbrink whose telephone number is (571) 272-1199. The examiner can normally be reached on Monday-Friday 9 am -2 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Colaianni can be reached on (571) 272-1196. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jill L. Heitbrink
Primary Examiner
Art Unit 1732

jlh